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T. E. GRIFFITH ET AL

1,491,394

REMOVABLE PANEL

Filed March 5, 1923

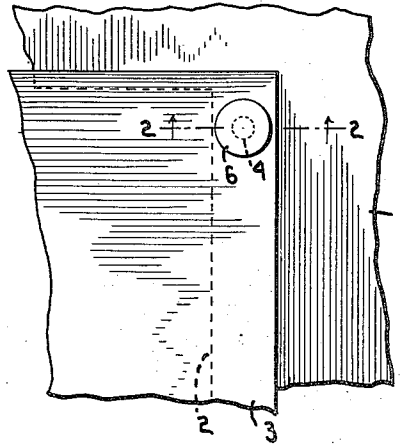


Fig. 1.

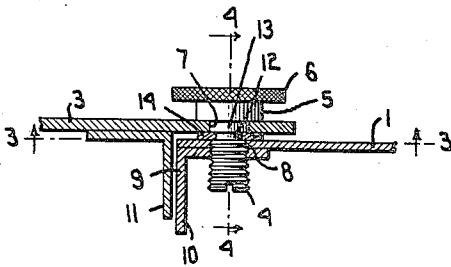


Fig. 2.

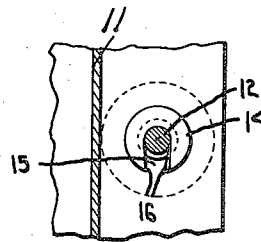


Fig. 3.

Fig. 4.

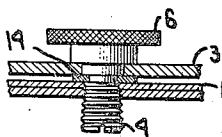
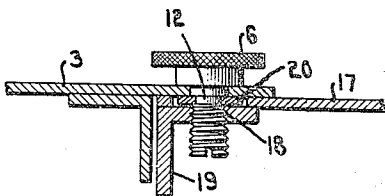


Fig. 5.



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REMOVABLE PANEL.

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To all whom it may concern:

Be it known that we, THOMAS E. GRIFFITH and LEE L. DODDS, citizens of the United States, and residents of Cleveland, county of Cuyahoga, State of Ohio, have jointly invented a new and useful Improvement in Removable Panels, of which the following is a specification, the principle of the invention being herein explained and the best mode in which we have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention, relating, as indicated, to removable metal panels, is more particularly directed to the provision of an improved means for securing in place a removable panel, such as is commonly used in elevator cars as an emergency exit, usually either in the top or one side of the car. A further object is the provision of normally operable securing means which shall be easily operable, but shall be so fixed that they cannot be removed and lost. Other uses for the present invention will of course readily suggest themselves to those skilled in the various arts. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a front elevation showing a portion of a wall and removable panel closing an opening therein; Fig. 2 is a section on the line 2—2 in Fig. 1 with the screw shown in elevation; Fig. 3 is a section on the line 3—3 in Fig. 2; Fig. 4 is a section on the line 4—4, in Fig. 2 with the screw shown in elevation; and Fig. 5 is a view similar to Fig. 2, but showing a modified construction.

All elevator cars are provided with an emergency exit in the form of a panel which is removable from the wall (or top) in which it is placed, and these panels are ordinarily made removable by screws which secure the panel to the surrounding wall, and which are in plain view from the interior of the car. Occupants of the car sometimes handle these screws and even remove them,

and it is to prevent the possible loss of the securing screws from the removable panel and to provide a simple and inexpensive means for securing the panel in place that the present invention has been made.

In Fig. 1 we have shown a wall 1 of an elevator car, or other enclosure, provided with an opening 2 therein, which is intended to be normally closed by means of a plate or removable panel 3. Screws 4, which are provided with enlarged neck portions 5 and knurled heads 6, are employed to secure the panel in place, these screws passing through an opening 7 in the panel and engaging in a threaded opening 8 in the wall 1 of the enclosure. The wall of the enclosure 1 is provided with an angle member 9 which is also threaded to receive the screw 4, and is provided with a flange 10 which may be contacted by a corresponding flange 11 on the panel 3 and thus assists in properly locating the panel when in place.

The screw 4 is provided with a diminished portion or neck 12 directly beyond the portion 13 of the screw which engages in the opening 7 in the panel 3. A washer 14, shown in elevation in Fig. 3, is pressed over this neck 12 of the screw, the washer being provided with a slot 15, which snugly fits the neck 12, and the ends 16 of the washer on either side of the slot 15 are then pinched together slightly to bring them closer together than the diameter of the neck 12, and thus prevent the removal of the washer when once in place. The washer is of course of greater size than the hole 7 through the panel 3 and hence prevents the screw 4 from being removed from the panel 3 by the fact that the threaded portion of the screw is larger in diameter than the opening through the washer and prevents the washer from dropping off from the inner end of the screw when the panel is removed.

In Fig. 5 we have shown a modification of the above construction, in which each corner of the enclosure 17 is removed a certain distance adjacent to the opening 18 through the flanged plate or angle 19, which is attached to the wall. This permits the washer 20 to be received in the same plane as the wall 17 of the panel and brings the panel 3 into contact with the outer surface of the surrounding wall 17, instead of being spaced a short distance away from it, as shown in Fig. 2.

The present construction has been found to be of considerable importance in elevator cars in providing against the loss of securing screws for the removable panels; and is, as will be appreciated from the foregoing description, both simple and relatively inexpensive.

Other modes of applying the principle of our invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

We therefore particularly point out and distinctly claim as our invention:—

1. The combination of a plate provided with a hole therethrough, a screw mounted in such hole, said screw having an enlargement on one side of said plate of greater size than such hole, and a U-shaped member engaging about said screw on the other side of said plate, said means being also of greater size than such hole.

2. The combination of a plate provided with a hole therethrough, a screw mounted in such hole, said screw having an enlargement on one side of said plate of greater size than such hole, and a reduced portion adjacent said plate but on the other side

thereof from such enlarged portion, and means engaging such reduced portion of said screw, said means being of greater size than such hole.

3. The combination of a plate provided with a hole therethrough, a screw mounted in such hole, said screw having an enlargement on one side of said plate of greater size than such hole, and a reduced portion adjacent said plate but on the other side thereof from such enlarged portion, and a U-shaped member engaging such reduced portion of said screw, said member being of greater size than such hole.

4. The combination of a plate provided with a hole therethrough, a screw mounted in such hole, said screw having an enlargement on one side of said plate of greater size than such hole, and a reduced portion adjacent said plate but on the other side thereof from such enlarged portion, and a washer of greater size than such hole, said washer having a slot in one side, the outer ends of such slot being narrower than the diameter of such screw.

Signed by us, this 20th day of February, 1923.

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